

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the present application.

1. (currently amended) A method of modifying cell structure comprising: introducing into a mammalian cell either biliverdin reductase or a ~~fragment or variant thereof, or a nucleic acid molecule encoding biliverdin reductase or a fragment or variant thereof under conditions effective to express biliverdin reductase or the fragment or variant thereof, thereby increasing the intracellular concentration of biliverdin reductase, or the fragment or variant thereof, and modifying the structure of the mammalian cell,~~

wherein the biliverdin reductase is encoded by a nucleic acid molecule that hybridizes to the complement of SEQ ID NO: 2 under hybridization conditions comprising a temperature of 65°C and a hybridization medium comprising 1 M Na⁺ buffer and remains hybridized following wash conditions comprising a temperature of 65°C and a wash medium comprising 0.2X SSC buffer, and

wherein the modified cell structure is enhanced cell size, actin microspike formation, polar cell morphology, or a combination thereof.

2. (canceled)

3. (withdrawn) The method according claim 1 wherein biliverdin reductase is introduced into the mammalian cell.

4-7 (canceled)

8. (previously presented) The method according to claim 1 wherein a nucleic acid molecule encoding biliverdin reductase is introduced into the mammalian cell.

9. (previously presented) The method according to claim 8 wherein said introducing comprises:

transfected the mammalian cell with an infective transformation vector comprising the nucleic acid encoding biliverdin reductase.

10. (original) The method according to claim 9 wherein the infective transformation vector is an adenovirus vector or a retrovirus vector.

11 (original) The method according to claim 1 wherein the mammalian cell is a stem cell, a neuronal or glial cell, a vascular smooth muscle cell, a skeletal muscle cell, an epithelial cell, or a nucleated blood cell.

12. (original) The method according to claim 1 wherein the mammalian cell is *in vitro*.

13-26 (canceled)